Remarks

As stated above, the applicants appreciate the Examiner's thorough examination of the subject application and request reexamination and reconsideration of the subject application in view of the following remarks.

Currently, claims 3 and 5-17 are pending in the subject application, of which claims 5, 9 and 13 are independent claims and claims 3, 6-8, 10-12 and 14-17 are dependent claims. No claims have been amended.

Concerning Item 3 of the subject action, the Examiner rejects claims 3, 5 and 6, under 35 USC §103(a), based on the combination of the teachings of Smith et al (U.S. Patent No.: 6,359,642; hereinafter Smith) and Nagasaka (U.S. Patent No.: 5,241,349; hereinafter Hagasaka).

Applicants claim (in Previously Presented claim 5):

5.   (Previously Presented) A method of controlling a printer having a ready status and an on-but-not ready status and including a mirror having an operating speed comprising: starting a ready timer for a predetermined time interval when a predetermined control signal is entered into said printer wherein said printer is in said ready status and said mirror is at said operating speed and executing one of the following: (i) continuing said printer in said ready status when said timer does not reach said predetermined time interval; or (ii)changing said printer to said on-but-not-ready status when said timer reaches said predetermined time interval, *wherein said predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed.*

Applicants respectfully assert that the combination of the teachings of Smith and Nagasaka fails to disclose a system *wherein said predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed,* as disclosed and claimed in the subject application. Accordingly, applicants respectfully assert that the combination of the teachings of Smith and Nagasaka is not

37 CFR §1.116 REPLY TO FINAL OFFICE ACTION OF 20 OCTOBER 2005
Serial Number: 09/932,647
Filing Date: 17 August 2001
Title: Host Control of Printer Ready
Assignee: Lexmark International, Inc.

Page 7
Docket: 2001-0099.01
(LEX056)

a proper basis for a 35 USC §103(a) rejection, as the combination of the teachings of Smith and

Nagasaka fails to disclose each and every element of the applicants' claimed invention.

Concerning the "predetermined time interval" disclosed and claimed by the applicants,

the subject application discloses that:

> In the implementation, the fluid bearing sees no more total revolutions with this invention than it would without this invention, provided that the "ready" time is significantly less than the sum of the time that it takes for the motorized scanning polygon mirror to coast from operating speed to full stop plus the time that it takes to accelerate from stop to operating speed, as discussed immediately below. Similarly, in the implementation, the air bearing sees no more total start-stop cycles with this invention than it would without this invention because unnecessary stops of the motorized scanning polygon mirror are avoided. Thus for both the fluid and air bearing technologies, the life of the bearing is extended by the invention. *See the subject Application, paragraph 34.*

> By selecting "a ready" time of 8 seconds (slightly more than the nominal time needed of 7.7 seconds), the printer would be optimized for use in the copy center. This results in a small increase in revolutions, which is tolerable in view of the increased print speed. *Within the printer, the "ready" is limited from being set to more than 15 seconds, a conservative approximation of a time which is significantly less than it takes for the motorized scanning polygon mirror to coast from operating speed to full stop plus the time that it takes to accelerate from stop to operating speed.* See the subject Application, paragraph 48, emphasis added.

> The default time for "ready" mode may be zero, which provides the general-purpose printing user with the maximum performance, for typical print jobs with the minimum of acoustical impact. If a value is entered into the printer's "ready" time setting, that value becomes the new default value. Data in the command from device 24 overrides the default value taken from the printer's "ready" time setting. The single exception is when the value passed from the application via the command is zero--in this case the zero is interpreted as instruction to apply a zero ready time after this page only, and revert to the default value henceforth. *See the subject Application, paragraph 50.*

> *Upon completion of any print page, a timer (termed Ready timer, not shown) is started which will count a time equal to the currently active "ready" time.* Upon expiration of this timer, the printhead will be turned off. If the timer was initially started from zero, the default value will then be queued to be used as the ready time after the next sheet printed, otherwise the value just used will be queued. *See the subject Application, paragraph 51.*

FIGS. 5a and 5b illustrate these control steps in some detail, all executed under control of microprocessor 72 or ASIC 40 or other automatic control apparatus. In decision 300 completion of printing a page is determined. If "No" this decision is made again at regular intervals. When "yes", the Ready timer is examined for being non-zero. If "No", the Ready value is set to the predetermined default in action 304 and the mirror 116 is turned off in action 306. (The Ready timer being non-zero means that the specified wait period has passed.) *See the subject Application, paragraph 52.*

When decision 302 is "Yes", the Ready timer is started in action 308 and decision 310 determines if the Ready timer is non-zero. If "Yes" this decision is made again at regular intervals. When "No," mirror 116 is turned off in action 306. *See the subject Application, paragraph 53.*

Accordingly, the subject application discloses and claims a system that maintains the printer in a "ready" status until a timer reaches a predetermined time interval, and changes the printer to an "on-but-not-ready" status when the timer reaches the predetermined time interval. As discussed above, *the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed.*

Applicants respectfully assert that the combination of the teachings of Smith and Nagasaka fails to disclose such a system.

As Smith fails to disclose the use of a timer, the Examiner asserts that "[i]t is inherent that a computer/processor uses timer [sic] to count a predetermined period of time and requires a signal to start the timer". Accordingly, the Examiner relies of the teaching of Nagasaka to disclose the use of a timer. The Examiner asserts that "Nagasaka shows a ready timer (S3, fig. 5) to count a predetermined period of time (S5, fig 5) that the system is in ready state and a time start signal (S4, fig. 5)".

Concerning the "timer" of Nagasaka and the steps (i.e., S3, S4 and S5, fig. 5) relied upon by the Examiner to disclose the applicants' claimed invention, Nagasaka discloses:

37 CFR §1.116 REPLY TO FINAL OFFICE ACTION OF 20 OCTOBER 2005
Serial Number: 09/932,647
Filing Date: 17 August 2001
Title: Host Control of Printer Ready
Assignee: Lexmark International, Inc.

Page 9
Docket: 2001-0099.01
(LEX056)

If the printing process ends (if the receiving process ends, S1 is No), it is discriminated whether or not the timer (not shown) is counting time in S3. It is noted that the timer is not counting time (S3 is No) when S3 is executed for the first time since the printing process ends. Due to this, a timer start process (S4) is executed, and it is discriminated whether or not ten minutes has passed (S5). It is noted that the first time process in the discrimination in S5 is No. Thereafter, the timer repeats the time counting process, and if it is discriminated that ten minutes has passed from the timer start, S5 is Yes and the temperature control of the fixing roll 19 is changed to be in the above-set sleep mode in S6. Then, the timer is automatically reset after ending ten minutes' time counting process. *See Nagasaka, Column 7, Lines 32-46.*

Accordingly, Nagasaka fails to disclose a system in which *the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed,* as disclosed and claimed by the applicants.

Further, concerning the functionality of the "timer" of Nagasaka and the manner in which the "timer" is controlled, Nagasaka discloses that:

First, in step (hereinafter called STP) 1, it is discriminated whether or not data is receiving. If data is receiving, the timer is reset in STP2, and the fixing temperature control is executed in a normal mode in STP3. At this time, the FULOW signal and the FUEN signal are in an "H" level. *See Nagasaka, Column 8, Lines 1-6.*

On the other hand, if data is receiving, it is discriminated whether or not the timer is counting time in STP4. If the timer is counting time, it is discriminated whether or not ten minutes has passed. If the timer is not counting time, the timer is started in STP5, and it is discriminated whether or not *ten minutes* has passed in STP6. If ten minutes has not yet passed, STP3 is executed. If ten minutes has passed, it is discriminated whether or not one hour has passed in STP7. If one hour has passed, the FUEN signal is set to be in an "L" level, and the mode is set to be in the OFF sleep mode in STP10. *See Nagasaka, Column 8, Lines 7-18, emphasis added.*

If *one hour* has not passed, it is discriminated whether the sleep mode is LOW or OFF at present in STP8. If the sleep mode is LOW, the FULOW signal is set to be in the "L" level in STP9, and if the sleep mode is OFF, the FUEN signal is set to be in the "L" level in STP10. *See Nagasaka, Column 7, Lines 19-23, emphasis added.*

Accordingly, the time intervals in Nagasaka concern time periods of e.g., ten minutes and one hour, which is quite distinguishable for the time period interval of the applicants' claimed invention which is *"less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed"*. As discussed in the subject application:

> Within the printer, the "ready" is limited from being set to more than 15 seconds, a conservative approximation of a time which is significantly less than it takes for the motorized scanning polygon mirror to coast from operating speed to full stop plus the time that it takes to accelerate from stop to operating speed. *See the subject Application, paragraph 48.*

Accordingly, as Nagasaka teaches a system in which the timer value may be e.g., ten minutes or one hour, Nagasaka actually teaches away for the applicants' claimed invention in which *"the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed "*.

Accordingly, applicants respectfully assert that the combination of the teachings of Smith and Nagasaka is not a proper basis for a 35 USC §103(a) rejection, as the combination of the teachings of Smith and Nagasaka fails to disclose each and every element of the applicants' claimed invention.

Therefore, applicants respectfully assert that independent claim 5 is patentable over the combination of the teachings of Smith and Nagasaka. Further, as dependent claims 3 and 6 directly depend upon a patentable base claim, applicants respectfully assert that dependent claims 3 and 6 are also patentable.

Concerning Item 4 of the subject action, the Examiner rejects claim 7, under 35 USC §103(a), based on the combination of the teachings of Smith, Nagasaka and Muto (U.S. Patent No.: 5,521,686; hereinafter Muto).

The Examiner asserts that "Muto teaches it is well known in the art to reset a timer such that the timer could be used to count time again". However and for the reasons discussed above, the combination of the teachings of Smith, Nagasaka and Muto fails to disclose a system in which *"the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed "*, as disclosed and claimed by the applicants in independent claim 5. As claim 7 indirectly depends upon claim 5 (an allowable base claim), applicants respectfully assert that dependent claim 7 is patentable over the combination of the teachings of Smith, Nagasaka and Muto

Concerning Item 5 of the subject action, the Examiner rejects claim 8, under 35 USC §103(a), based on the combination of the teachings of Smith, Nagasaka and Jordan (U.S. Patent No.: 6,078,343; hereinafter Jordan).

The Examiner asserts that "Jordan... ...teaches the control unit is within the print engine". However and for the reasons discussed above, the combination of the teachings of Smith, Nagasaka and Jordan fails to disclose a system in which *"the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed "*, as disclosed and claimed by the applicants in independent claim 5. As claim 8 directly depends upon claim 5 (an allowable base claim), applicants respectfully assert that dependent claim 8 is patentable over the combination of the teachings of Smith, Nagasaka and Jordan.

37 CFR §1.116 REPLY TO FINAL OFFICE ACTION OF 20 OCTOBER 2005
Serial Number: 09/932,647
Filing Date: 17 August 2001
Title: Host Control of Printer Ready
Assignee: Lexmark International, Inc.

Page 12
Docket: 2001-0099.01
(LEX056)

Concerning Item 6 of the subject action, the Examiner rejects claims 9-11 and 13-15, under 35 USC §103(a), based on the combination of the teachings of Smith and Hibino (U.S. Patent No.: 5,636,332; hereinafter Habino).

Applicants claim (in Previously Presented claim 9):

9.   (Previously Presented) A system for controlling a printer having a ready status and an on-but-not ready status comprising: a printer including a ready timer, a mirror having an operating speed and an automatic control apparatus; and an input capable of entering a predetermined time interval and a predetermined control signal into said printer; wherein said automatic control apparatus is configured to: start said ready timer for a predetermined time interval when said predetermined control signal is entered into said printer wherein said printer is in said ready status and said mirror is at said operating speed, and execute one of the following: (i) continue said printer in said ready status until said timer reaches said predetermined time interval, or (ii) change said printer to said on-but-not-ready status when said timer reaches said predetermined time interval, *wherein said predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed.*

Applicants claim (in Previously Presented claim 13):

13.   (Previously Presented) A printing apparatus having a ready status and an on-but-not ready status comprising: a ready timer, a mirror having an operating speed and an automatic control apparatus; wherein said automatic control apparatus is configured to: start said ready timer for a predetermined time interval wherein said printer is in said ready status and said mirror is at said operating speed, and execute one of the following: (i) continue said printer in said ready status until said timer reaches said predetermined time interval, or (ii) change said printer to said on-but-not-ready status when said timer reaches said predetermined time interval, *wherein said predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed.*

Applicants respectfully assert that the combination of the teachings of Smith and Habino fails to disclose a system *wherein said predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed,* as disclosed and claimed in the subject application. Accordingly,

applicants respectfully assert that the combination of the teachings of Smith and Habino is not a proper basis for a 35 USC §103(a) rejection, as the combination of the teachings of Smith and Habino fails to disclose each and every element of the applicants' claimed invention.

As discussed above, the subject application discloses and claims a system that maintains the printer in a "ready" status until a timer reaches a predetermined time interval, and changes the printer to an "on-but-not-ready" status when the timer reaches the predetermined time interval. As discussed above, *the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed.*

As Smith fails to disclose the use of a timer, the Examiner asserts that "[i]t is inherent that a computer/processor uses timer [sic] to count a predetermined period of time and requires a signal to start the timer". Accordingly, the Examiner relies of the teaching of Hibino to disclose the use of a timer. The Examiner asserts that "Hibino shows a ready timer (column 5, lines 10-15) to count a predetermined period of time (S5, fig 5) that the system is in ready state".

Concerning the "timer" of Hibino and the passage (i.e., column 5, lines 10-15) and step (i.e., S5 of fig. 5) relied upon by the Examiner to disclose the applicants' claimed invention, Hibino discloses:

> FIG. 5 is a flowchart representing processes performed in the personal computer 3 at the start of a remote printer console program for setting operation mode of the printer 1 from the personal computer 3. When the remote printer console program is started, in step 1, the CPU 7 performs initialization processes such as resetting the timer count value to zero. Hereinafter, steps will be referred to as Si, wherein i is the number of the step. Then, whether or not the mouse 6 or a key of the keyboard 5 have been operated is determined in S2. If not (i.e., S2 is NO), then the timer count value is checked in S3. If the count value has not reached a predetermined duration of time (five minutes in this example) so that S3 is NO, the program returns to S2. *When the count value has reached five minutes* (i.e.,

37 CFR §1.116 REPLY TO FINAL OFFICE ACTION OF 20 OCTOBER 2005
Serial Number: 09/932,647
Filing Date: 17 August 2001
Title: Host Control of Printer Ready
Assignee: Lexmark International, Inc.

Page 14
Docket: 2001-0099.01
(LEX056)

S3 is YES), *the CPU 7 in S4 enters the personal computer 3 into a computer power down mode,* thereby activating a screen saving function which reduces the intensity of the display 4 as will be described later. *Next,* via the interface 2, *the CPU 7 outputs to the printer 1 in S5 a power down command for putting the printer 1 into the printer power down mode. See Hibino, Column 4, Lines 53-60.*

If the operator inputs data using the keyboard 5 or the mouse 6 (i.e., S2 is YES), the CPU 7 resets the count value of the timer to zero in S6 and then determines in S7 whether or not the personal computer 3 is presently set to the computer power down mode. *See Hibino, Column 5, Lines 11-15.*

As is readily apparent from the above-referenced passages of Hibino, the Hibino system concerns a software application resident on the computer to which a printer is coupled, wherein the software application monitors the "power down" status of the computer and, once the host computer enters "power down" mode, the printer is subsequently placed in "power down" mode.

Accordingly, Hibino fails to disclose a system in which *the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed,* as disclosed and claimed by the applicants.

Accordingly, applicants respectfully assert that the combination of the teachings of Smith and Hibino is not a proper basis for a 35 USC §103(a) rejection, as the combination of the teachings of Smith and Hibino fails to disclose each and every element of the applicants' claimed invention.

Therefore, applicants respectfully assert that independent claims 9 and 13 are patentable over the combination of the teachings of Smith and Hibino. Further, as dependent claims 10-11 and 14-15 directly depend upon a patentable base claim, applicants respectfully assert that dependent claims 10-11 and 14-15 are also patentable.

Concerning Item 7 of the subject action, the Examiner rejects claims 12 and 16, under 35 USC §103(a), based on the combination of the teachings of Smith, Hibino and Jordan.

The Examiner asserts that "Jordan... ...teaches the control unit is within the print engine". However and for the reasons discussed above, the combination of the teachings of Smith, Hibino and Jordan fails to disclose a system in which *"the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed "*, as disclosed and claimed by the applicants in independent claims 9 and 13. As claim 12 directly depends upon claim 9 (an allowable base claim), applicants respectfully assert that dependent claim 12 is patentable over the combination of the teachings of Smith, Hibino and Jordan. Further, as claim 16 indirectly depends upon claim 13 (an allowable base claim), applicants respectfully assert that dependent claim 16 is patentable over the combination of the teachings of Smith, Hibino and Jordan.

Concerning Item 8 of the subject action, the Examiner rejects claim 17, under 35 USC §103(a), based on the combination of the teachings of Smith, Hibino and Nagasaka.

The Examiner asserts that "Nagasaka... ...teaches using a microprocessor as a control unit". However and for the reasons discussed above, the combination of the teachings of Smith, Hibino and Nagasaka fails to disclose a system in which *"the predetermined time interval is less than the amount of time necessary for the mirror to slow from said operating speed to a stop and then return to said operating speed "*, as disclosed and claimed by the applicants in independent claim 13. As claim 17 directly depends upon claim 13 (an allowable base claim), applicants respectfully assert that dependent claim 17 is patentable over the combination of the teachings of Smith, Hibino and Nagasaka.

Accordingly, in light of the above remarks, applicants respectfully assert that the subject application is in condition for allowance. The Examiner is invited to telephone applicants'

37 CFR §1.116 REPLY TO FINAL OFFICE ACTION OF 20 OCTOBER 2005
Serial Number: 09/932,647
Filing Date: 17 August 2001
Title: Host Control of Printer Ready
Assignee: Lexmark International, Inc.

Page 16
Docket: 2001-0099.01
(LEX056)

attorney (603-668-6560) to facilitate prosecution of this application. Please apply any charges or

credits to deposit account 50-2121.

Respectfully submitted,

20 DECEMBER 2005
Date

Brian J. Colandreo
Attorney for Applicants
Registration No. 42,427